STUDIES IN THE EVOLUTION OF LANGUAGE

General Editors

James R. Hurford, *University of Edinburgh*
Frederick J. Newmeyer, *University of Washington*

This series provides a forum for work in linguistics and related fields that seeks answers to questions about the origins and evolution of language. It places a premium on sound scholarship, rational thought, and readable writing.

PUBLISHED

The Transition to Language
Edited by Alison Wray

The Origins of Vowel Systems
Bart de Boer

PUBLISHED IN ASSOCIATION WITH THE SERIES

Language Diversity
Daniel Nettle

Function, Selection, and Innateness:
The Emergence of Language Universals
Simon Kirby

The Origins of Complex Language:
An Inquiry into the Evolutionary Beginnings of Sentences, Syllables, and Truth
Andrew Carstairs-McCarthy

IN PREPARATION

Language Evolution:
The States of the Art
Edited by Morten Christiansen and Simon Kirby

The Transition to Language

Edited by
Alison Wray

OXFORD
UNIVERSITY PRESS

18 On the Evolution of Grammatical Forms

Bernd Heine and Tania Kuteva

18.1 Introduction

A number of approaches are available to the linguist for studying earlier phases in the evolution of human language or languages. This chapter explores the potential for grammaticalization theory to throw light on language evolution. Grammaticalization theory relies on regularities in the evolution of linguistic forms, drawing on the unidirectionality principle and its implications for the reconstruction of earlier language states (Traugott and Heine 1991; Heine, Claudi, and Hünnemeyer 1991; Hopper and Traugott 1993). The main purpose of this chapter is to show that there are certain classes of grammatical forms that can be assumed to presuppose other grammatical forms in time. An attempt is made to reconstruct sequences of grammatical evolution with a view to establishing how language may have been structured at earlier stages of human evolution. While there are a number of interesting scenarios for how early human language may have been structured (e.g. Bickerton, this volume; Wray, this volume), it is hard to find convincing hypotheses for how functional categories evolved out of other items or structures that may have been used in early human communication.

Work based on classical methods of historical linguistics has brought about a number of insights into the form and structure of earlier forms of human languages. It would seem, however, that this work gives us access to only a fairly small phase in the evolution of human languages: linguistic reconstruction becomes notoriously fuzzy once we are dealing with a time depth exceeding 10,000 years. While there exists a wide array of opinions

This chapter is based on research carried out by Bernd Heine while he was a fellow at the Center for Advanced Study in the Behavioral Sciences, Stanford, USA, to which he wishes to express his gratitude. Our thanks are also due to comments received from the participants of the Paris 2000 conference, to the anonymous referees for this book, and, most of all, to Alison Wray for many valuable suggestions.

on how far back reconstruction can be pushed and on what the genetic and areal relationship patterns among earlier languages may have been, there appears to be general agreement on one point: the languages that were spoken 10,000 or more years ago were typologically not much different from present-day languages.

Here we want to argue that it is possible to push back linguistic reconstruction to earlier phases of linguistic evolution, that is, to phases where human language or languages can be assumed to have been different in structure from what is found today. The approach that we adopt here is one of *intergenetic grammaticalization comparison*, that is, comparisons across the boundaries of language families (or phyla). This approach differs from other linguistic approaches in that it deals neither with language typology nor with areal or genetic relationships. Like genetic linguistics, it uses etymology as a tool for historical reconstruction. But instead of dealing with genetic relationships among languages, that is, with comparisons within a single language family, it is concerned with principles of grammatical evolution. The goal is to reconstruct grammar at an earlier stage in human history—a stage that is not accessible by using classical methods of historical linguistics, i.e. a stage where language was not yet developed the way we know it from past and present-day records—let us call it *Stage X*.

The approach used here is not entirely new, it has been used—implicitly or explicitly—in some works dealing with the subject matter under scrutiny (see e.g. Sankoff 1979; Comrie 1992; Aitchison 1996). It is concerned with the development of grammatical categories and uses the methodology and findings of grammaticalization theory in order to describe grammatical evolution.[1] In addition, it draws on, but is not confined to (see sect. 18.2), a principle that is commonly ascribed to another method of historical linguistics, namely, internal reconstruction.

18.2 The Present Approach

Grammaticalization concerns the evolution from lexical to grammatical forms and from grammatical to even more grammatical forms. This evolu-

[1] With the term 'evolution' we refer to regularities in the development of linguistic forms and structures based on crosslinguistic observations. The development from a numeral 'one' to an indefinite article, for example, is an instance of an evolution since it can be observed to occur regularly and independently across languages. Thus, when talking of

TABLE 18.1 *Mechanisms of the grammaticalization process*

Mechanism	Effect
Desemanticization ('bleaching')	Loss of meaning
Decategorialization ('downgrading')	Loss of categorial properties
Erosion ('phonetic reduction')	Loss of phonetic substance

tion, which is essentially unidirectional,[2] involves a number of interrelated mechanisms, in particular the ones listed in Table 18.1.

In fact, things are slightly more complex than Table 18.1 implies. In particular, there are not only losses but also gains. For example, a loss of meaning may be compensated for by new meanings arising in the context in which the relevant form is used (see Heine *et al.* 1991 for details). However, for our present purposes it will suffice to adopt the simpler framework in Table 18.1. The three mechanisms are interrelated in the sense that desemanticization is a *sine qua non* for erosion and decategorialization to happen, that is, loss in meaning is immediately responsible for triggering the other two mechanisms.

The effects of this evolution can be illustrated with example (1) from Swahili, the national language of Tanzania and Kenya.

(1) Swahili (Bantu, Niger-Congo[3])
  (a) a- ta- jenga nyumba
  C1 FUT build house
  'he will build a house'
  (b) a- taka ku- jenga nyumba
  C1:PRS want INF-build house
  'she wants to build a house'

'evolution' we are concerned not with what happens to a given language as a whole, but rather to a given grammatical category.

[2] This process is not without exceptions: a number of examples contradicting the unidirectionality principle have been found (see e.g. Joseph and Janda 1988; Campbell 1991; Ramat 1992; Frajzyngier 1996; and especially Newmeyer 1998: 260 ff.). Still, as acknowledged by most of the scholars who have identified exceptional cases, they are few compared to the large number of cases that conform to the principle (cf. Haspelmath 1999; 2000: 249). Furthermore, such examples can frequently be accounted for with reference to alternative forces. Finally, no instances of 'complete reversals of grammaticalization' have been discovered so far (cf. Newmeyer 1998: 263; see also Newmeyer, this volume).

[3] In the examples, the information given after the language name is: sub-family, family, and, where appropriate, a reference to the published source.

  (c) a- taka- ye- jenga nyumba
  C1 want C1:REL build house
  'he who will build a house'

There is a future tense marker *-ta-* in (1a) which is historically derived from the full verb *-taka*, 'want', illustrated in (1b). That this is so can be deduced, first, from the fact that the future marker *-ta-* has retained its earlier form *-taka* in certain contexts, for instance, in relative clauses, as can be seen in (1c). Second, the same process, from volition verb to future marker, has occurred independently in quite a number of genetically and areally unrelated languages, perhaps in hundreds. English is one of them. In English, the future marker *will* is also historically derived from a volition verb and, as in the case of Swahili, more conservative features have been retained in subordinate clauses. The volition meaning of English *will* can still be found in uses such as *Do it as you will.*

Largely predictably, the process from a full verb *-taka* to future tense marker *-ta-* involved a number of individual mechanisms, most of all the ones listed in Table 18.1:

1. Desemanticization: the erstwhile verb lost its lexical meaning (acquiring grammatical meaning).
2. Decategorialization: the verb lost properties characteristic of verbs, such as the capacity to form the predicate nucleus of the clause and to take arguments. Decategorialization has a number of different manifestations:
   (a) Cliticization: being reduced to a grammatical marker, the erstwhile main verb lost its independent status and became dependent on another verb, in example (1) the new main verb *-jenga* 'build'. It turned into a clitic and eventually a prefix.
   (b) Paradigmatic narrowing: verbs are open-class items while grammatical markers are closed-class items. With the transition from verb to future marker, *-taka* shifted from the open class of verbs to the class of tense-aspect markers, which has a membership of less than a dozen.
3. Erosion: the item *-taka* lost phonetic substance, being reduced to *-ta-*.

To conclude, the Swahili example is an instance of a more general evolution whereby lexical items, and the structures associated with them, turn into grammatical items as the result of a network of interrelated mechanisms summarily referred to as grammaticalization.

The second part of the approach used here can be described by means of the schema presented in Fig. 18.1.

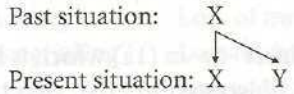

FIG. 18.1 Principle of reconstruction.

Languages reveal layers of past changes in their present structure—they recapitulate their past development, as Greenberg (1992: 155) puts it. Suppose we know that a linguistic structure X under specific conditions develops regularly into Y and, conversely, Y can regularly be traced back to X. Now, if we find that a given language has both X and Y, then we can conclude that at some earlier development stage of that language there was X but no Y. The approach that can be derived from this observation has been described by Comrie (1992) thus: 'Certain kinds of present linguistic alternation can be reconstructed back to earlier states without that alternation.'[4] This procedure is well known from earlier studies in internal reconstruction: 'wherever we find an instance of morphophonemic alternation, we reconstruct an earlier stage where there is no corresponding morphophonemic alternation, and a plausible environment conditioning the alternation on an allophonic basis (ibid. 205).

Comrie uses this approach to argue that certain complexities of all or many presently attested languages were not present in early human language (see below).[5] Applied to our Swahili example we arrive at the following conclusion. There are two morphemes in modern Swahili: a future tense marker *-ta-* and a verb *-taka*, 'want'. Since there is a regular evolution from volition verbs to future tense markers, we can reconstruct an earlier situation where there was the verb but not the future tense marker.[6] However, unlike internal reconstruction, our approach is not restricted to the analysis of language-internal processes; rather, it is comparative in nature and allows for reconstructions across languages.[7]

In the remainder of this chapter we will use this combined approach to discuss some traits of grammatical evolution.

[4] It might be argued that this approach works in cases where appropriate historical evidence exists, but not necessarily in other cases. In other words, our claim that the presence of two structures X and Y can be traced back to an earlier situation where there was X but no Y cannot be generalized. It is a common analytic procedure, we would argue, to describe the unknown in terms of the known given appropriate correlations between the two, and not much is gained by rejecting such a generalization.

[5] It may happen of course that X is lost in the process, so that all we have left would be Y. Usually, such cases can be detected on the basis of comparative evidence. For instance, the English lexical meaning of *will*, 'want, wish' (=X) has almost disappeared, with the result that we are left with a situation where synchronically there is the grammatical marker *will* (=Y) but essentially no more X. On the basis of evidence from other languages, however, it is possible to establish that we are dealing with a special case. There are languages where there is polysemy involving a verb meaning 'want, wish' (=X) on the one hand, and a future tense marker (=Y) on the other (see example (1); see also Bybee *et al.* 1994).

18.3 Some Findings

On the basis of the approach just sketched we will now present some findings on the evolution of grammatical forms. These findings are based on Heine and Kuteva (forthcoming) and involve generalizations on more than 300 instances of grammatical evolution.

18.3.1 *Morphosyntactic Categories*

In the first instance, we shall focus on just one of the mechanisms identified in Table 18.1, namely decategorialization. The effect of this mechanism in the process of grammaticalization is that linguistic forms tend to lose properties characteristic of the morpheme class or syntactic category to which they belong, and to become members of other, more grammatical, categories. With reference to our Swahili example, the effect was that a fully fledged verb lost, in some of its uses, most of its verbal properties and joined a more grammatical morpheme paradigm, i.e. that of tense-aspect inflections. The consequences can be further illustrated with example (2), where a noun

[6] An anonymous referee of this chapter observes that the reader is left wondering what would happen if form Y leads on to something else, e.g. to form Z or indeed nothing at all. There is a straightforward answer. In the case of Y > Z, we would be dealing with a new change of the kind (X > Y), hence, we would expect it to behave the same way as X > Y. If 'nothing at all' means that Y takes on a zero formal expression then it may be more difficult, if not impossible, to achieve reconstruction. Such situations may arise in a given language; however, since we are dealing here with crosslinguistic regularities, such situations are special cases and can be identified as such on the basis of findings in other languages having undergone the same grammaticalization process.

[7] An argumentation that is in line with the present approach is found in some of Greenberg's works (Greenberg 1992: 154; see also Greenberg 1966; Croft 1991).

(NOUN), exemplified in (2a), turned into a complex pronoun (PRON) (2b), and eventually a voice marker (PASS) (2c).

(2) !Xun (North Khoisan, Khoisan)
  (a) mī shē mī |'é (Ju dialect)
    I see my body
    'I see my body' (or 'I see myself')
  (b) yà kē !hún yà |'é
    he PAST kill his self
    'he has killed himself'
  (c) g||ú má ké tchŋ̀ ká'ŋ̀ |'é kē mí
    water TOP PAST drink its self by me
    'the water has been drunk by me'

For a better understanding of the generalizations we are going to present, there are a few *caveats*. First, the evolutions are unidirectional, that is, a reflexive marker may assume the function of a passive marker while a passive marker is unlikely to develop into a reflexive marker or a noun.

Second, one and the same item may, and frequently does, give rise to more than one path of grammatical evolution, the technical term to refer to this phenomenon being polygrammaticalization. In (2) we observe that there is a noun (NOUN) that gives rise to a pronoun (PRON) and finally to a passive (PASS) category. In example (3), another noun (*megbé*, 'back'), also relating to the human body, illustrates quite a different path of evolution: we are dealing with a noun in (3a) that, in some of its uses, turns into an adverb (ADV) (3b) on the one hand, and an adposition (ADP) (3c) on the other.

(3) Ewe (Kwa, Niger-Congo)
  (a) éʃé megbé fa
    his back be-cold
    'his back is cold'
  (b) é- megbé é- yi aʃé
    its back s/he go home
    'then she went home'
  (c) é- le xɔ- a megbé
    s/he be house DEF back
    'he is behind the house'

In a similar fashion, adverbs may be part of yet another pathway of grammaticalization. As example (4) from Buang illustrates, involving the item *ken*, locative adverbs ('here' in 4a) may give rise to demonstrative (DEM) markers (4b), which again may develop further into relative clause markers (REL) (4c).

(4) Buang (Austronesian, Austric; Sankoff 1979: 35–6)
  (a) Ke mdo ken
    I live here
    'I live here'
  (b) Ke mdo byaŋ ken
    I live house this
    'I live in this house'
  (c) Ke mdo byaŋ ken gu le vkev
    I live house that you saw yesterday
    'I live in the house that you saw yesterday'

These are just a few examples out of roughly 350 common pathways of grammaticalization that have been identified in recent research. Taken together, they can be conflated into a more general evolutionary structure, presented in Fig. 18.2.

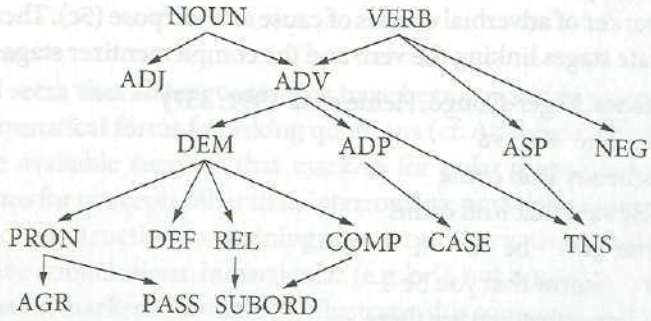

FIG. 18.2 Some salient paths of categorial shift in grammaticalization.

For a better understanding of Fig. 18.2, the following notes need to be taken into account:[8]

[8] Abbreviations: ADP = adposition, ADJ = adjective, ADV = adverb, AGR = agreement, ASP = aspect, COMP = complementizer, C1 = noun class 1, DEF = definite marker, DEM = demonstrative, F = feminine gender, FOC = focus, FUT = future tense, HAB = habitual, INF = infinitive, NEG = negation, PASS = passive, PRON = pronoun, PRS = present, PURP = purpose, Q = question, REL = relative clause marker, SUBJ = subjunctive, SUBORD = subordination marker, TNS = tense, TOP = topic.

1. The structure it represents is *non*-transitive, that is, unlike in a tree diagram, a given category can be derived from more than one other category;[9] we have alluded to this fact earlier. For example, (4) illustrates the evolution from adverb (ADV) via demonstrative (DEM) to relative clause marker (REL). But adverbs may go back to at least two different sources: nouns and verbs. And they themselves may give rise to several different form classes, namely demonstratives, adpositions, and tense markers.

2. The processes depicted in Fig. 18.2 are salient ones but they are not the only ones that have been found. For example, there are other sources for passives and also for relative clause markers than the one of each that we have illustrated here (see e.g. Lehmann 1984; Haspelmath 1990).

3. The structure is highly abstract in that it conflates a number of somewhat disparate evolutions. A given pathway of evolution need not involve all intermediate categories found in Fig. 18.2, but may jump over or ignore categories. For example, adpositions may be, and more often than not are, immediately derived from nouns or verbs without an intermediate adverb stage. Perhaps more dramatically, consider example (5). The pathway illustrated in (5) involves a verb *bé* meaning 'say' in (5a), which developed further into a complementizer (5b), and finally into subordinating conjunction, that is, a marker of adverbial clauses of cause and purpose (5c). There are no intermediate stages linking the verb and the complementizer stages.

(5) Ewe (Kwa, Niger-Congo; Heine *et al.* 1991: 237)
(a) é- bé Kofí vá
s/he say Kofi come
'He said that Kofi came'
(b) me- nyá bé e- li
I know that you be
'I know that you are there'
(c) bé (ná) wo- á- ʃle agbalẽ ta- é me- tsó ga
that (HAB) you SUBJ buy book PURP FOC I take money
nê
give-him
'In order for him to buy a book I gave him money'

It is not possible here to address the question of how to account for the various chains or pathways of evolution; once again, we refer to the relevant literature (especially Heine *et al.* 1991; Hopper and Traugott 1993; Bybee *et al.* 1994; Heine 1997*b*). In more general terms, one may say that these evolutions lead:

1. from concrete meanings to more abstract ones,[10]
2. from open-class to closed-class items,
3. from fairly independent, referential meanings to less referential, schematic grammatical functions having to do with relations within the clause or between clauses.

[9] In other words, the representation in Fig. 18.2 shows all possible routes, not, as a tree diagram would, the specific route for a particular outcome.

18.3.2 *Some Basic Functions*

Grammatical change has been characterized in Fig. 18.2 in terms of some formal properties of language structure, that is, in terms of a classification of grammatical categories. It goes without saying that there are other aspects to the development than just those mentioned above. Focusing now on the mechanism of desemanticization (in Table 18.1 above), we shall consider what the approach sketched in sect. 18.2 can tell us about some of the salient functions of linguistic communication. In doing so, we will be confined to a few examples, which concern the expression of interrogation, spatial orientation, possession, and personal deixis.

Questions

It would seem that all languages that have been studied in some detail display grammatical forms for asking questions (cf. Aitchison 1996: 177). The evidence available suggests that markers for polar questions are derived from forms for concepts other than interrogative ones. One common source consists of constructions containing negative or alternative markers, or both. Alternative conjunctions, in particular (e.g. 'or'), not uncommonly develop into question markers. Example (6) illustrates this source. The Hausa phrase conjunction *kō* meaning 'or', 'either (... or)', presented in (6a), appears to have given rise to the question particle *kō*, as can be seen in (6b) (see Heine and Kuteva (forthcoming) for more examples).

(6) Hausa (Chadic, Afroasiatic; Cowan and Schuh 1976: 216)
(a) kō nī kī kai
either I or you
'either you or I'

[10] Conceptual shift from concrete to abstract, as understood here, is anthropocentric in nature, in that it leads from meanings that are close to human experience and easy to describe, to meanings that are more difficult to understand and describe.

(b) kō kā sàmi gyadā mài yawà?
Q you get peanuts many
'did you get a lot of peanuts?'

While the evidence available is still far from satisfactory, it would seem to suggest that the presence of question markers can be reconstructed back to a situation where such markers did not exist, at least not in this capacity. This may suggest that segmental forms for marking questions may not have been part of the inventory of the grammar of human language at Stage X.

Location

Spatial orientation is viewed by some as constituting one of the primitive domains of human conceptualization, and there is a wealth of data to show how locative constructions can provide, and have provided, a convenient conceptual source for encoding other concepts. Studies in grammaticalization suggest, however, that terms for spatial orientation themselves tend to be derived from other domains, almost invariably from terms for concrete objects. Fig. 18.3 describes the network of historical sources for linguistic forms for spatial orientation.

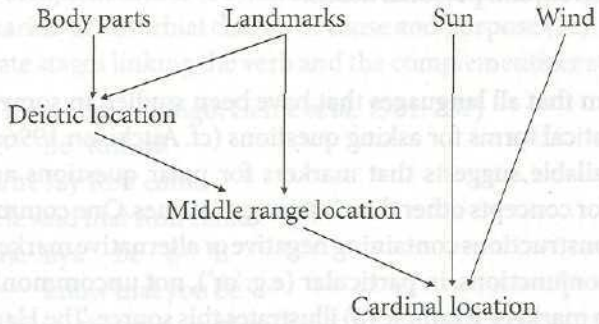

FIG. 18.3 The main source domains of spatial orientation (see Heine 1997*b*).

The human body provides an outstanding structural template for describing spatial concepts, and in many languages terms for body-parts such as 'back', 'face', 'head', or 'belly' have been used to develop expressions for the deictic spatial notions 'behind', 'in front', 'above', and 'inside', respectively. In addition, there is a pool of environmental landmarks (e.g. rivers, mountains, terms for earth/ground or sky) that tend to be grammaticalized to terms for locative concepts (Heine 1997*b*), and finally there are two natural phenomena, the sun and regular wind directions, that provide templates for expressing absolute references, essentially for cardinal directions.

An example from Maa may illustrate the kind of grammaticalization paths involved (7). There is a concrete noun, *n-kɔ́p*, denoting 'earth, ground, country' in (7a). This noun has given rise to a couple of new meanings: as in many other languages, it is used as a landmark concept to denote the 'space below' (7b), and eventually, in some Maasai dialects it has developed into a term for the cardinal direction term 'north' (7c).

(7) Maa (Maasai, Chamus dialect; Nilotic, Nilo-Saharan)
(a) n- kɔ́p
F- land
'soil, earth, country' (Chamus)
(b) (tɛ́) n- kɔ́p
(at) F- land
'below' (Chamus)
(c) kɔ́pɪ kɔ́p
land- land
'north' (Maasai)

What such observations seem to suggest is that spatial orientation is a derived domain, that is, terms for spatial concepts are likely to go back to terms for concrete objects, typically encoded as nouns, to a minor extent also to motion and postural verbs.

Possession

Possession is a concept that appears to be distinguished in all human societies, even if there is some cross-cultural variation in the way this concept is understood. This universality is suggested by a couple of interrelated observations. First, all languages that have been studied in some detail appear to have conventionalized expressions for both predicative possession (e.g.

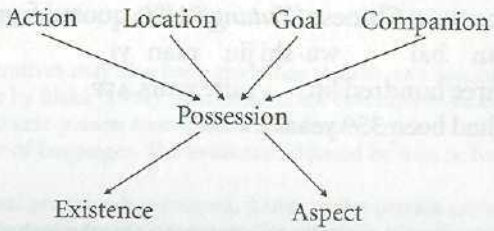

FIG. 18.4 The main source and target domains of predicative possession (see Heine 1997*a*).

I have a dog) and attributive possession (*my dog*) (Heine 1997*a*). Second, we know of no language that does not have some lexical means of expressing concepts such as 'to steal' or 'theft'. Third, we also know of no society where there is no legalized means of dealing with theft—however 'theft' may be defined in a given culture.

Observations on languages for which there is some diachronic evidence suggest that linguistic expressions for possessive concepts are derived from other conceptual domains. The main sources for 'have'-constructions are summarized in Fig. 18.4.

What Fig. 18.4 suggests is that predications of the form *I have a dog* are historically derived from structures like *I get/hold/keep/take a dog* (= Action), or *A dog is where I am* (= Location), or *A dog is to/for me* (Goal), or *I am with a dog* (Companion) (the examples are from Heine 1997*a*). But expressions for possession may themselves give rise to other grammatical meanings, most of all to existential copulas and verbal aspect markers.

In (8) we see an example of the action part of the schema in Fig. 18.4, from Chinese, involving the Old Chinese verb *de* 'to obtain'. In (8a) *de* appears in its earliest attestable use as a lexical item ('obtain'). A later use of possession is illustrated in (8b), and one of existence in (8c).[11]

(8) Chinese
  (a) Old Chinese (300 BC; *Shijing Guangsui*; quoted from Sun 1996: 112)
  qiu zhi bu de
  want her NEG obtain
  '(The lord) wished (for) her, (but) did not get (her)'
  (b) tenth-century Chinese (*Zutangji* 1/74; quoted from ibid. 122)
  yi ren de wo rou
  one person obtain I flesh
  'One (of them) has my flesh'
  (c) tenth-century Chinese (*Zutangji* 1/80; quoted from ibid. 122)
  de san bai wu-shi jiu nian yi
  have three hundred fifty nine years ASP
  'There had been 359 years'

[11] Among the various grammaticalization processes that the verb *de* underwent in the history of Chinese (see Sun 1996: 108–62), the present one constitutes only a minor, less common pattern.

Thus, we appear to be dealing with an evolution from the Action schema, involving a full verb 'obtain', to a Possession schema, and finally to an existential construction.

On the basis of our approach we are led to conclude that there must have been a stage where a given possessive construction was used for purposes other than designating possession and, hence, that at some earlier state in the history of human languages there were no conventionalized expressions for possession. However, by no means can one conclude from this observation that the relevant speakers did not have a *concept* of possession. Such a conclusion would be clearly beyond the scope of the approach used here.

Personal deixis

One may wonder whether there is any functional domain of grammar to which the above kind of reconstruction does not apply. If there are such domains then personal deixis must surely be one of them. Comparative work on language families where early written documents are available suggest that distinctions in personal pronouns belong to the small pool of what one is tempted to call 'prehistorical primitives'. For example, they have been used by Joseph Greenberg as primary evidence to formulate hypotheses on early genetic relationship.

Nevertheless, there is evidence to suggest that even personal pronouns can be traced back to form–meaning pairings other than personal pronouns. Third-person pronouns can often be reconstructed back to demonstrative pronouns—the development from Latin to the modern Romance languages illustrates this process.[12] First- and second-person pronouns appear to have human nouns as their primary historical source (see Moravcsik 1972: 272; Heine 1997*b*: 15 for details).[13] For example, a number of genetically and areally unrelated languages, such as !Xun of the Khoisan family, and Kono of the Mande family, have used nouns for 'person, people' to develop first-

[12] That demonstratives may also have given rise to first- and second-person pronouns has been argued for by Blake (1934), who noted some correspondences between proximal demonstratives and first-person forms, and distal demonstratives and second-person pronouns in a number of languages. The evidence adduced by him is, however, not entirely convincing.

[13] Once a personal pronoun has evolved, it may under certain circumstances give rise to yet another category of personal pronouns. For example, second- or third-person plural pronouns not uncommonly acquire second-person singular reference, as has happened in a number of European languages (e.g. English, German, French).

person plural pronouns ('we'; Heine and Kuteva, forthcoming), and in some south-east Asian languages, nouns denoting persons of inferior social status ('servant', 'slave', 'disciple') have given rise to first-person pronouns, while nouns for persons of superior status ('master', 'king') were grammaticalized to second-person pronouns.[14]

Without wishing to overrate the significance of such evidence, the data available is sufficient to suggest that personal pronouns can be derived from other concepts and we are therefore led to assume that there may have been an earlier stage in the evolution of language or of languages where there were no conventionalized expressions for personal pronouns.

18.4 The Earliest Conceivable Language Structure

The view we take here on language change *processes* is uniformitarian, that is, we assume that the forces and processes of language change were the same in the past as they are in the present. Our proposal relates, however, not to language processes but to language *structure*, and the hypothesis we put forward about language structure is radically non-uniformitarian. We propose that what we refer to as Stage X—that is, language at the point at which current forces of historical language change came into being—had a structure different from the structure that present languages have. Thus, the observations made so far allow us to set up a few properties that might have been characteristic of earlier forms of human language(s), that is, of Stage X:

1. First, all evidence on grammatical evolution suggests that there were no more than two types of linguistic entities: one type denoting thing-like, time-stable entities, that is, nouns, and another one denoting non-time-stable concepts such as actions, activities, and events, i.e. verbs (cf. Aitchison 1996).
2. This would mean that there must have been something corresponding to the notion of a word.
3. It also means that at Stage X there was no morphology.
4. It also follows that there were no items whose primary function it was to express relations among words; hence the only productive means of syntax must have been word order.
5. While it is quite possible, or even likely, that there were *concepts* for notions such as spatial orientation or possession, we can assume that there were no grammaticalized forms to express these concepts.
6. In a similar fashion, we are led to conclude that there were no forms at Stage X whose primary function it was to express distinctions of personal deixis—in spite of the fact that all available linguistic reconstructions suggest that personal deixis can be traced back to the earliest strata accessible to linguists.

In addition to these observations derived from findings on grammaticalization, one may add some phonological properties that must have characterized Stage X, such as those identified by Comrie (1992: 206–8) using an approach similar to the one employed here. These properties are:

7. There may have been oral vowels and nasal consonants, but no nasalized vowels. Since loss of an earlier vowel or other nasalizing consonant is the ultimate origin of all nasalized vowels, there must have been a stage in the history of human language in which the complication of having a distinction between nasalized and non-nasalized vowels was non-existent.
8. Since all tonal oppositions in language can be shown to have non-tonal origins, tone was not a distinguishing feature.

18.5 The Structure of Pidgins

In languages used in stress situations, where linguistic communication is seriously impaired, where people have only 'inadequate' linguistic models at their disposal, everything that is not vital tends to be stripped off and hence language structure may be reduced to its most essential, and least dispensable, characteristics. Such characteristics are the ones most likely to have been present also in earlier forms of human language.

Pidgin languages offer a paradigm example of such a situation: 'In pidginization the acquisition process involves the learning of a second language by speakers of different language backgrounds, who have limited access to the language of the dominant group' (Romaine 1992: 234; cf. Bickerton 1981, 1984). What may happen in such a situation is described by Sankoff (1979) and Aitchison (1996) with reference to Tok Pisin, but their observations can

[14] Malay *sahaya*, 'I', is said to go back to a noun for 'servant', and in a similar fashion are Burmese *dabeq-*, 'disciple', and *tyunv-*, 'slave', claimed to have developed into first person pronouns, while Malay *tuan*, 'you', is said to be derived from 'master' and Burmese *minx*, 'king', and *hyinv*, 'master', are considered to be sources for second-person pronouns (see Blake 1934: 244; Cooke 1968: 74–6; Stolz 1994: 78–9).

be extended to other pidgins. A survey of pidgins in different parts of the world suggests that the most likely effects of early pidginization can be summarized as follows (cf. Heine 1979; Romaine 1992; Boretzky 1983; Tosco and Owens 1993; etc.):

1. In phonology, the number of phonemic distinctions is reduced, distinctions in vowel length and tone tend to be given up.
2. Inflectional morphology tends to disappear, derivational morphology is drastically reduced or lost entirely.
3. Grammatical distinctions of tense and aspect, number, gender, definiteness/indefiniteness, case marking, clause embedding, etc. tend to be lost.
4. The lexicon shrinks to a fraction of the size it has in the source language.

The result is a language:

(a) which has virtually no affixal morphology, hence hardly any distinction between morphemes and words,
(b) hence where words are unanalysable entities,
(c) where grammatical functions tend to be expressed either by lexical material or word order, or else are not formally expressed,
(d) which has only a limited number of lexical items, and
(e) where context plays a central role in utterance construction and interpretation.[15]

A structure that characterizes the situation of early pidgins thus resembles the one we proposed in sect. 18.4 as likely to have characterized the earliest conceivable language structure: there is essentially no distinct grammatical morphology and no formal apparatus to signal syntactic relations. But there are also differences. All pidgins beyond the jargon stage on which we have conclusive information appear to display some or all the following grammaticalizd forms:

(1) markers distinguishing personal deixis (i.e. personal pronouns)
(2) demonstratives
(3) adpositions
(4) elements expressing negation
(5) elements for conjoining clauses
(6) adverbs and interjections
(7) productive patterns for forming questions
(8) some forms of circumlocution or periphrasis, e.g. to refer to concepts for which there are no appropriate lexical or grammatical means.

[15] This stripping process, as Romaine (1992: 232) calls it, tends to be confined to the early stages of pidginization. In their more advanced stages, pidgins develop new grammatical structures. Sankoff (1979) shows, for example, how in Tok Pisin new grammatical categories evolved, such as markers for number, tense, and causativity, or complementizers and relative clause markers, and how meaningful morphemes, such as personal pronouns, may develop into largely obligatory and redundant elements of clause structure.

Thus, although pidgin languages are strongly reduced in their phonological, morphosyntactic, and lexical inventory *vis-à-vis* the languages from which they can be said to be derived, they still are not without structure, a structure that in some way links them typologically with analytic-isolating languages (see e.g. Boretzky 1983: 21). Compared to this, the language structure that surfaces as the earliest conceivable one on the basis of grammaticalization work is distinctly more 'primitive': There are but two word types, nouns and verbs, and a number of properties characteristic of pidgins, including functional categories such as personal pronouns, demonstratives, negation, can be assumed to have been absent.

As a result, while some authors have drawn attention to the similarities found between pidgins and early human language structure (see in particular Sankoff 1979), we do not see how the two can be related to one another in a systematic way, especially since it remains unclear how the structure of pidgins is affected by the presence of the various lexifier and substrate languages that characterize the genesis of pidgin languages.

18.6 Conclusions

The present chapter challenges some views that have been maintained on the evolution of earlier human language (see especially Newmeyer, this volume; Bickerton, this volume). It is hoped that such views need to be reconsidered in the light of observations arising from the findings on the evolution of functional categories. In the study of language evolution, two partially compatible standpoints can be taken:

(1) The forces and processes of language change were the same in the past as they are in the present.
(2) Languages in the past were structurally the same in principle as languages in the present.

Standpoint (1) has acquired the status of a fundamental principle of historical linguistics. It is very tempting to assume that (1) logically entails (2). In fact, there exists general agreement that in a historically reconstructible time depth, earlier languages were typologically not much different from present-day ones. Nichols (1992: 276) concludes, for instance, that no evidence has been uncovered to indicate that morphosyntactic structure has been subject to increasing complexity since the earliest recoverable stage of language. While we do not contest the assumption in (1) above, in this chapter we have taken a standpoint that differs from the one articulated in (2). More precisely, on the basis of findings in grammaticalization studies, we have argued that languages in the historically non-reconstructible past may have been different—in a systematic way—from present-day languages. We have proposed particular sequences of the evolution of grammatical structures that enable us to reconstruct earlier stages of human language(s). As Fig. 18.2 illustrates, such evolutions lead in a principled way from concrete lexical items to abstract morphosyntactic forms. Thus Fig. 18.2 suggests, on the one hand, that grammatical forms such as case inflections or agreement and voice markers did not fall from heaven; rather they can be shown to be the result of gradual evolutions. Much more importantly, Fig. 18.2 also suggests that at the earliest conceivable stage, human language(s) might have lacked grammatical forms such as case inflections, agreement, voice markers, etc., so that there might have existed only two types of linguistic entities: one denoting thing-like, time-stable entities (i.e. nouns), and another one for non-time-stable concepts such as events (i.e. verbs). We are thus dealing with a situation that does not appear to have a parallel in modern language forms such as pidgins or other structures arising in situations of communicative stress.

In concluding, we wish to draw attention to a couple of problems that are associated with the approach proposed here. First, we argued that linguistic reconstruction based on grammaticalization theory can be traced back to two kinds of linguistic items, nouns and verbs. The linguistic and philosophical literature of the past two centuries is rich in arguments on why these two kinds of items are more basic, more concrete, and/or more communicatively and pragmatically salient than other morpheme types; still, none of these arguments is entirely satisfactory, and more research is required. The second problem relates to suprasegmental grammatical structures. As mentioned earlier, grammaticalization theory is concerned with the evolution of segmental grammatical forms. This means that non-

segmental phenomena such as tone, intonation, or word order are not normally within its scope. In some cases this may affect the results obtained. For example, when dealing with interrogation, we observed that segmental forms for marking polar (or yes–no) questions may not have been part of the inventory of earlier grammar. However, questions are frequently expressed by such phenomena as intonation or word order, instead of or in addition to segmental forms. Our reconstruction must therefore of necessity remain fragmentary.

FURTHER READING

BYBEE, JOAN L., PERKINS, REVERE D., and PAGLIUCA, WILLIAM (1994), *The Evolution of Grammar: Tense, Aspect, and Modality in the Languages of the World* (Chicago: University of Chicago Press).

HEINE, BERND (1997), *Cognitive Foundations of Grammar* (Oxford and New York: Oxford University Press).

——and KUTEVA, TANIA (forthcoming), *World Lexicon of Grammaticalization* (Cambridge: Cambridge University Press).

HOPPER, PAUL J., and TRAUGOTT, ELIZABETH C. (1993), *Grammaticalization* (Cambridge: Cambridge University Press).

REFERENCES

AITCHISON, JEAN (1996), *The Seeds of Speech: Language Origin and Evolution* (Cambridge: Cambridge University Press).

BICKERTON, DEREK (1981), *Roots of Language* (Ann Arbor: Karoma).

——(1984), 'The Language Bioprogram Hypothesis', *The Behavioral and Brain Sciences*, 7: 173–220.

BLAKE, FRANK R. (1934), 'The Origin of Pronouns of the First and Second Persons', *The American Journal of Philology*, 55: 244–8.

BORETZKY, NORBERT (1983), *Kreolsprachen, Substrate und Sprachwandel* (Wiesbaden: Harrassowitz).

BYBEE, JOAN L., PERKINS, REVERE D., and PAGLIUCA, WILLIAM (1994), *The Evolution of Grammar: Tense, Aspect, and Modality in the Languages of the World* (Chicago: University of Chicago Press).

CAMPBELL, LYLE (1991), 'Some Grammaticalization Changes in Estonian and their Implications', in Traugott and Heine (1991: 285–99).

COMRIE, BERNARD (1992), 'Before Complexity', in Hawkins and Gell-Mann (1992: 193–211).

COOKE, JOSEPH R. (1968), *Pronominal Reference in Thai, Burmese, and Vietnamese*, University of California Publications in Linguistics, 52 (Berkeley: University of California Press).

COWAN, J. RONAYNE, and SCHUH, RUSSELL G. (1976), *Spoken Hausa*, I. *Hausa Language-Grammar* (Ithaca: Spoken Language Services).

CROFT, WILLIAM (1991), 'The Evolution of Negation', *Journal of Linguistics*, 27: 1–27.

FRAJZYNGIER, ZYGMUNT (1996), *Grammaticalization of the Complex Sentence: A Case Study in Chadic* (Amsterdam: John Benjamins).

GREENBERG, JOSEPH H. (1966), 'Synchronic and Diachronic Universals on Phonology', *Language*, 42: 508–17.

——(1992), 'Preliminaries to a Systematic Comparison Between Biological and Linguistic Evolution', in Hawkins and Gell-Mann (1992: 139–58).

HASPELMATH, MARTIN (1990), 'The Grammaticalization of Passive Morphology', *Studies in Language*, 14/1: 25–72.

——(1999), 'Why is Grammaticalization Irreversible?', *Linguistics*, 37/6: 1043–68.

——(2000). 'Why Can't We Talk to Each Other?', *Lingua*, 110/4: 235–55.

HAWKINS, JOHN A., and GELL-MANN, MURRAY (1992) (eds.), *The Evolution of Human Language*, Proceedings of the Workshop on the Evolution of Human Languages, August 1989 (Santa Fe: Addison-Wesley).

HEINE, BERND (1979), 'Some Generalizations on African-based Pidgins', in Ian F. Hancock, Edgar Polomé, Morris Goodman, and Bernd Heine (eds.), *Readings in Creole Studies* (Ghent: E. Story-Scientia PVBA).

——(1997*a*), *Possession: Sources, Forces, and Grammaticalization* (Cambridge: Cambridge University Press).

——(1997*b*), *Cognitive Foundations of Grammar* (Oxford and New York: Oxford University Press).

——and KUTEVA, TANIA (forthcoming), *World Lexicon of Grammaticalization* (Cambridge: Cambridge University Press).

—— CLAUDI, ULRIKE, and HÜNNEMEYER, FRIEDERIKE (1991), *Grammaticalization: A Conceptual Framework* (Chicago: University of Chicago Press).

HOPPER, PAUL J., and TRAUGOTT, ELIZABETH C. (1993), *Grammaticalization* (Cambridge: Cambridge University Press).

JOSEPH, BRIAN, and JANDA, RICHARD (1988), 'The How and Why of Diachronic Morphologization and Demorphologization', in Michael Hammond and Michael Noonan (eds.), *Theoretical Morphology: Approaches in Modern Linguistics* (New York: Academic Press), 193–210.

LEHMANN, CHRISTIAN (1984), *Der Relativsatz: Typologie seiner Strukturen, Theorie seiner Funktionen, Kompendium seiner Grammatik* (Tübingen: Narr).

MORAVCSIK, EDITH A. (1972), 'Some Crosslinguistic Generalizations About Intensifier Constructions', *Chicago Linguistic Society*, 8: 271–7.

NEWMEYER, FREDERICK J. (1998), *Language Form and Language Function* (Cambridge, Mass.: MIT Press).

NICHOLS, JOHANNA (1992), *Linguistic Diversity in Space and Time* (Chicago: University of Chicago Press).

RAMAT, PAOLO (1992), 'Thoughts on Degrammaticalization', *Linguistics*, 30: 549–60.

ROMAINE, SUZANNE (1992), 'The Evolution of Linguistic Complexity in Pidgin and Creole Languages', in Hawkins and Gell-Mann (1992: 213–38).

SANKOFF, GILLIAN (1979), 'The Genesis of a Language', in Kenneth C. Hill (ed.), *The Genesis of Language*, First Michigan Colloquium, 1979 (Ann Arbor: Karoma), 23–47.

STOLZ, THOMAS (1994), *Sprachdynamik: Auf dem Weg zu einer Typologie sprachlichen Wandels*, ii. *Grammatikalisierung und Metaphorisierung* (Bochum: Brockmeyer).

SUN, CHAOFEN (1996), *Word Order Change and Grammaticalization in the History of Chinese* (Stanford: Stanford University Press).

TOSCO, MAURO, and OWENS, JONATHAN (1993), 'Turku: A Descriptive and Comparative Study', *SUGIA (Sprache und Geschichte in Afrika)*, 14: 177–267.

TRAUGOTT, ELIZABETH C., and HEINE, BERND (1991) (eds.). *Approaches to Grammaticalization* (Amsterdam: John Benjamins), i.